operation was much longer than here eſtimated, yet a very important trade may be performed.

In the eſtimate of expences, each man letting down and raiſing a boat for threepence [*]; and the man at bottom transferring the chains for threepence on two boats, would amount to one penny and a fraction per ton; but conſidering empty with full boats, I will allow one penny halfpenny per ton for paſſing this apparatus, which I conceive adequate to every contingency; and the following will exhibit the probable expence of conſtructing the machine.

Eſtimate for a Conjunction Two Hundred Feet high, Six Hundred Yards in Width.

First Half.	£.	s.	d.
380 yards inclined plane, 4l. 10s. per yard,	1,710	0	0
67 yards tub pit, 4l. 15s. per yard,	318	0	0
320 yards ſough, 15s. per yard,	240	0	0
Vertical-wheel,	50	0	0
1,000 feet chain, at 2s. per foot,	100	0	0
Wrought-iron tub,	60	0	0
1,400 feet tub and balance chains, at 4s. per foot,	280	0	0
Drum-wheel,	100	0	0
Pinions, boſs, and levers,	60	0	0
Carried over,	£. 2,918	0	0

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[*] Threepence for two boats I conſider ſufficient wages, when it is conſidered a man will paſs forty boats, amounting to 5s. in five hours and twenty minutes; hence, in working twelve hours, in a briſk trade, he might earn 11s. 10d. halfpenny, a ſum ſufficient to ſupport different ſets of men.

Brought

	£.	s.	d.
Brought over,	£. 2,918	0	0
Centrifugal fans,	60	0	0
Building and timber to ſupport the works,	200	0	0
	3,178	0	0
Second Half,	3,178	0	0
	6,356	0	0
In the paſſing place, 60 yards plane, 4l. 10s. per yard,	270	0	0
Culvert or bridge,	200	0	0
	6,826	0	0
Contingencies 10 per cent.	682	10	0
Total,	£. 7,508	10	0

As the whole water uſed in raiſing the boats will deſcend to the valley, and be loſt from the canal, it will amount, on a trade of five hundred tons per day, to about two thouſand tons waſte, equal to about eight lockings for forty-ton boats, which paſſing from the upper ponds of canal, where water is ſcarce, to the lower, where it is of little importance, water being there more abundant from various ſources, *is ſimilar to the above waſte.*

In conſtructing the conjunction, there is alſo the advantage of gaining height; one plane may riſe higher than the other if neceſſary, and thus gain any number of feet which the ground will admit of, yet perform the transfer with the ſame facility; and if one pond muſt be repleniſhed with water from the other, a pipe may be laid along the ſide of the planes for that purpoſe.

Having